

SPECIFICATION AMENDMENTS

After the title of the application, insert the following paragraph:

This disclosure is a division of U.S. Patent Application 09/959,521, now U.S. Patent 6,723,296.

Before the paragraph beginning at page 1, line 4, insert as a heading:

Field Of The Invention

Amendments to the paragraph beginning at page 1, line 7:

The invention also concerns a process and a device for obtaining ~~said~~ the material.

Before the paragraph beginning at page 1, line 10, insert as a heading:

Background

Before the paragraph beginning at page 1, line 20, insert as a heading:

Summary Of The Invention

Amendments to the paragraph beginning at page 2, line 1:

It is preferable for this material to comprise a peripheral volume corresponding to essentially one-third of the total volume of the material, of about 75 to 85% porosities whose, with pores having dimensions ~~are~~ between 10 and 50 Å and, in the remaining central volume, about 80 to 90 % cavities whose dimensions are between about 200 Å and 2 µm.

Amendments to the paragraph beginning at page 2, line 11:

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The invention also concerns a process for the treatment of a gaseous medium containing volatile organic compounds, consisting of directing a flow of said gaseous medium over a porous material according to the invention, to bring about adsorption of this flow which penetrates the ~~porosities pores~~ and the cavities of the material, ~~then absorption of said flow,~~ in the process of which a chemical reaction occurs between the volatile organic compounds of ~~said~~ the flow and the material itself, to transform the volatile organic compounds into nontoxic gases, particularly CO₂ and/or SO₂.

Amendments to the paragraph beginning at page 2, line 18:

The process according to the invention is more effective when the porous material according to the invention presents a very high number of ~~porosities pores~~ and cavities which ~~allows allow~~ diffusion of the gaseous flow throughout the material with a large specific surface. The chemical transformation of the gas flow is favored by the relatively long contact time between the gas flow and the material when the latter is penetrated by the flow.

Amendments to the paragraph beginning at page 3, line 8:

-applying a pretreatment of the base constituent impregnated with ~~said~~ the solution by mixing it at a first pre-determined speed to create a porous structure,

Amendments to the paragraph beginning at page 3, line 16:

-mixing ~~said~~ the gel with complementary products comprising a solution with a strong oxido-reductive potential representing about 10% of the total volume, a mixture of carbon and alumina representing about 12 to 15% of the total volume and calcium sulfate representing about 2% of the total volume

Amendments to the paragraph beginning at page 4, line 3:

It is preferable, at the time of pretreatment, for the process to ~~consist of carrying~~ carry out another mixing operation at a third speed lower than the first and second ~~speeds~~, to enlarge the cavities and porosities of the resulting structure.

Amendments to the paragraph beginning at page 4, line 21:

The invention also pertains to a device for implementation of the ~~obtaining~~ ~~production~~ process according to the invention, which includes:

Amendments to the paragraph beginning at page 5, line 1:

-a device which accomplishes linear transfer of ~~said~~ ~~the~~ third mixture and at least one ultrasound device delivering a power of 3 to 5000 W, on at least one part of the trajectory of ~~said~~ ~~the~~ third mixture, and

Before the paragraph beginning at page 5, line 20, insert as a heading:

Brief Description Of The Drawings

Amendments to the paragraph beginning at page 5, line 20:

The invention is more completely understood and its other purposes, advantages, and characteristics more clear upon reading of the following description related to the attached drawings which represent nonlimiting examples of ~~the embodiment~~ ~~embodiments~~ of the invention, and in which:

Amendments to the paragraph beginning at page 5, line 24:

-Figure 1 is a cross section of the device for ~~obtaining~~ ~~producing~~ the material for the treatment of gaseous media according to the invention,

Before the paragraph beginning at page 6, line 6, insert as a heading:

Detailed Description

Amendments to the paragraph beginning at page 6, line 6:

With reference to Figure 1, the device according to the invention for ~~obtaining~~ ~~producing~~ material intended for the treatment of gaseous media generally includes an

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impregnator 1 which makes it possible to impregnate the base constituent of this material with an aqueous solution and to accomplish pretreatment to obtain a porous structure, a first reactor 2 to form a gel from the pretreated base constituent, and in which physicochemical reactions occur, and finally a second reactor 3 for drying the mixture obtained from the first reactor, and which ends with a device 4 for extrusion and shaping of the mixture from the second reactor.

Amendments to the paragraph beginning at page 6, line 19:

This base constituent is ~~of the clay type~~, and comprises about 30 wt% of clay ~~whose having a particle size is~~ greater than 180 µm and about 70 wt% of clay ~~whose having a particle size is~~ between 10 and 20 µm.

Amendments to the paragraph beginning at page 7, line 3:

Thus, in the enclosure 101, the base constituents, from which the metal atoms have been reduced, is restructured into light assemblies with high porosity with a large number of cavities and pores, favored by the ultrasound treatment. The blade 112 finalizes the molecular reorganization of the cavities and ~~pores~~ formed in this first mixture and makes them larger.

Amendments to the paragraph beginning at page 8, line 1:

In fact, the clay base constituent contains metal ions in its atomic make-up, essentially iron, aluminum, chromium, manganese, and nickel, which are desirable to separate from the molecular assemblies, which should have as much capacity as possible to open into ~~pores~~ and cavities.

Amendments to the paragraph beginning at page 8, line 28:

The mixer 210 comprises a ~~barrell-shaped~~ barrel-shaped rotor 211 to which there is attached, on top, mixing blades 212 with a scissor effect and, on the bottom, streamlined blades 213.

Amendments to the paragraph beginning at page 9, line 1:

Within the rotor 211, there are an external chamber 230 and an internal chamber 231, separated by a ~~barrel-shaped~~ barrel-shaped element 232.

Amendments to the paragraph beginning at page 11, line 5:

At the time of this ultrasound treatment, the cavities and ~~porosities~~ pores present in the mixture 17 are emptied and dried by diffusion in the microporous structure, which causes reimpregnation of the material 18 obtained by microscopic diffusion of the impregnation liquid progressively constituted from the preimpregnator 1 to the means of ultrasound emission 305.

Amendments to the paragraph beginning at page 12, line 1:

As shown in Figure 6, this material comprises, in a peripheral volume 21 corresponding essentially to one-third the total volume of material, about 75 to 85% porosity ~~22, whose~~ including pores 22 having dimensions ~~are~~ between 10 and 20 Å and, in the remaining central volume 23, about 80 to 90% cavities 24 whose dimensions are between about 200 Å and 2 µm.

Amendments to the paragraph beginning at page 12, line 6:

Thus, since the ~~porosities~~ pores 22 empty into the cavities 24 of the central volume, a gaseous flow can penetrate into the material through the ~~porosities~~ pores 22 which constitute circulation routes, as far as cavities 24, in which the gaseous flow can swirl.

Amendments to the paragraph beginning at page 12, line 9:

Therefore, the material 20 adsorbs a significant flow of gas circulating in the ~~porosities~~ pores 22 and the cavities 24, then absorbs these gases by chemically transforming the volatile organic compounds present in this gas flow.

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Amendments to the paragraph beginning at page 12, line 20:

In addition, the large number of ~~porosities~~ pores and cavities inside the porous material results in a relatively long contact time between the gas flow and the porous material when this flow penetrates it. In particular, this contact time can be between 0.08 and 0.12 sec.

Delete the paragraph beginning at page 13, line 1.